

## Biodiesel fuel from rapeseed oil in supercritical methanol with heterogeneous catalysts

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The synthesis of biodiesel fuel by transesterification of rapeseed oil in supercritical methanol using different heterogeneous catalysts was studied. The experiments were performed in batch reactors to investigate the effects of reaction temperature, molar ratio of methanol to oil, mass ratio of catalyst to oil. After reactions, the content of fatty acid methyl esters (FAMES) and mono-, di-, triglycerides was analyzed by gas chromatography(GC). FAMES contents were enhanced compared with non-catalytic reaction. At low temperature, catalysts show better effects than at high temperature. The contents of FAMES increased with increasing temperature and increasing molar ratio of methanol to oil. When 1.0 % catalysts were added, the highest FAMES contents were obtained.